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Proposed Regulation Agency Background Document

Agency name	Virginia Department of Health
Virginia Administrative Code (VAC) citation	12 VAC 5 -585
Regulation title	Amendment to the Biosolids Use Regulations; Enforcement and Site Management Practices
Action title	Review of Regulatory Package
Document preparation date	October 27, 2005

This information is required for executive branch review and the Virginia Registrar of Regulations, pursuant to the Virginia Administrative Process Act (APA), Executive Orders 21 (2002) and 58 (1999), and the *Virginia Register Form, Style, and Procedure Manual*.

Brief summary

In a short paragraph, please summarize all substantive changes that are being proposed in this regulatory action.

The *Biosolids Use Regulations* (12 VAC 5-585) are to be amended to provide regulations and standards for enforcement related to local oversight of land application operations and provide requirements for land application site management practices to protect odor sensitive receptors, ensure permit compliance and address nutrient management concerns.

Legal basis

Please identify the state and/or federal legal authority to promulgate this proposed regulation, including (1) the most relevant law and/or regulation, including Code of Virginia citation and General Assembly chapter number(s), if applicable, and (2) promulgating entity, i.e., the agency, board, or person. Describe the legal authority and the extent to which the authority is mandatory or discretionary.

Legislation passed by the General Assembly (SB 1088, Acts of Assembly c. 681, 2003) and signed into law by the Governor, amended § 32.1-164.5 of the *Code of Virginia* (available electronically at <http://leg1.state.va.us/cgi-bin/legp504.exe?031+ful+CHAP0681>), requiring that the State Board of Health (Board) adopt regulations that included requirements for site specific nutrient management plans developed by persons certified in accordance with § 10.1-104.2 prior to land application for all sites where sewage sludge is land applied, and requirements for approval of nutrient management plans by the Department of Conservation and Recreation (DCR) prior to permit issuance under specific conditions. This legislation also added § 32.1-164.7 of the *Code of Virginia* that provided for local government enforcement of the requirements specified in the *Biosolids Use Regulations* (Regulations) and the resolution of any disputed local enforcement action by the State Health Commissioner. In addition, Legislation passed by the General Assembly (HB 2624, Acts of Assembly c. 593, 2005) and signed into law by the Governor, amended § 32.1-164.5 of the *Code of Virginia* requiring that the State Board of Health (Board) develop regulations specifying and providing for extended buffers to be employed for application of sewage sludge (i) to hay, pasture, and forestlands; or (ii) to croplands where surface incorporation is not practicable or is incompatible with a soil conservation plan meeting the standards and specifications of the U.S. Department of Agriculture Natural Resources Conservation Service. Such extended buffers may be included by VDH as site specific permit conditions, as an alternative to surface incorporation when necessary to protect odor sensitive receptors, as determined by VDH or the local government (available electronically at <http://leg1.state.va.us/cgi-bin/legp504.exe?051+ful+CHAP0593>).

Purpose

Please explain the need for the new or amended regulation by (1) detailing the specific reasons why this regulatory action is essential to protect the health, safety, or welfare of citizens, and (2) discussing the goals of the proposal and the problems the proposal is intended to solve.

The Regulations provide the means to protect public health from improper and unregulated disposal of sewage sludge. However, the opponents of the land application of biosolids have insisted that local governments enact local ordinances that are more restrictive than the state regulations. This amendment is designed to provide a consistent and uniform set of state requirements that will ensure that biosolids are land applied in accordance with permit requirements including compliance with nutrient management plans and extended buffers to protect odor sensitive individuals. It is anticipated that the development of state requirements will help improve the credibility of the VDH permit program and prevent any extended litigation that may be brought by permitted entities concerning compliance with local government ordinances that restrict or effectively ban land application of biosolids on permitted sites.

Substance

Please briefly identify and explain the new substantive provisions, the substantive changes to existing sections, or both where appropriate. (More detail about these changes is requested in the "Detail of changes" section.)

The Regulations are to be amended to provide for resolution of disputes involving local governments and land appliers concerning permit compliance issues and for land application site management practices, including nutrient management plan requirements and extended buffer zones for surface application without incorporation, to protect odor sensitive receptors.

The Regulations Advisory Committee (BURAC) has assisted the VDH in developing draft amendments presented to the Board of Health for approval as Proposed Amendments in accordance with the Administrative Process Act (APA). The Final Amendments will have to be adopted by the Board of Health in accordance with the APA, in order to meet the mandate stipulated in Sections 32.1-164.6 and 32.1-164.7 of the *Code of Virginia (Code)*. The amended regulations will include requirements for resolving enforcement disputes between permittees and localities that have adopted an ordinance for testing and monitoring land application pursuant to Section 62.1-44.19:3 of the *Code*. The amendments will also require that nutrient management plans be prepared for all sites permitted for land application of biosolids. In addition, DCR approval of nutrient management plans will be required for either, those sites receiving biosolids more frequently than once every three years at greater than 50 % of the agronomic rate established by the *Biosolids Use Regulations*, or sites owned or operated in conjunction with a confined animal feeding operation.

Issues

Please identify the issues associated with the proposed regulatory action, including:

- 1) the primary advantages and disadvantages to the public, such as individual private citizens or businesses, of implementing the new or amended provisions;*
- 2) the primary advantages and disadvantages to the agency or the Commonwealth; and*
- 3) other pertinent matters of interest to the regulated community, government officials, and the public.*

If the regulatory action poses no disadvantages to the public or the Commonwealth, please so indicate.

The State Board of Health approved the submittal of a Notice of Intended Regulatory Action (NOIRA) for an amendment to the Regulations concerning both permit enforcement issues and land application site management practices at its January 21, 2005 meeting. Since that time the Regulations Advisory Committee has assisted the Virginia Department of Health (VDH) in developing the draft amendment language now presented to the Board of Health for approval. The draft amendment reflects the recommendations from a majority of committee members. Certain sections of the draft amendment were developed by Professor Greg Evanylo, with the Department of Crop and Soil Environmental Sciences at Virginia Polytechnic Institute and State University. The State Board of Health approved the draft amendments as proposed with a minor revision concerning the removal of Table 14 and reference to "Calcium Carbonate Equivalency" (CCE), at the regular meeting held on October 21, 2005 in the Town of Chincoteague.

The advantage of adopting the requested amendments is that the credibility of this controversial state permit program will be enhanced. By establishing reasonable requirements for, the most economical and most beneficial means of sludge management will continue to be available to the owners of sewage treatment works, who are primarily metropolitan governments.

Economic impact

Please identify the anticipated economic impact of the proposed regulation.

Projected cost to the state to implement and enforce the proposed regulation, including (a) fund source / fund detail, and (b) a delineation of one-time versus on-going expenditures	Two man-years of staff time at a cost of \$120,000 annually paid from the Division of Wastewater Engineering budget.
Projected cost of the regulation on localities	None
Description of the individuals, businesses or other entities likely to be affected by the regulation	Private firms that land apply biosolids through contracts with Municipalities and agreements with landowners and farmers.
Agency’s best estimate of the number of such entities that will be affected. Please include an estimate of the number of small businesses affected. Small business means a business entity, including its affiliates, that (i) is independently owned and operated and (ii) employs fewer than 500 full-time employees or has gross annual sales of less than \$6 million.	10
All projected costs of the regulation for affected individuals, businesses, or other entities. Please be specific. Be sure to include the projected reporting, recordkeeping, and other administrative costs required for compliance by small businesses.	The land application firms may be required to permit additional sites and develop additional field storage facilities whose costs could vary from several thousand dollars up to \$100,000 per site. VDH has estimated that up to 30 additional field storage facilities may be needed to serve the existing permitted land application sites.

Alternatives

Please describe any viable alternatives to the proposal considered and the rationale used by the agency to select the least burdensome or intrusive alternative that meets the essential purpose of the action.

The Virginia Department of Health may elect to request the that State Board of Health consider the following alternatives:

1. Do not revise the Biosolids Use Regulations,
2. Revise the entire set of Biosolids Use Regulations, or
3. Revise the sections of the Biosolids Use Regulations dealing only with the amendment for certification of land applicators.

Failure to provide specific State requirements as requested will likely result in local adoption of ordinances with varying non-uniform requirements, that could have significant financial impacts on the

regulated entities. Court challenges are likely to result from inconsistent and overly restrictive local ordinances, leading to expensive litigation. Although additional requests for revisions to the Biosolids Use Regulations have been submitted by local governments and private individuals, the process of revising the entire set of the Biosolids Use Regulations will likely become a long drawn out process, as the land application of biosolids is a highly controversial subject. Thus, the Virginia Department of Health is electing to recommend that only the previously listed sections of the Biosolids Use Regulations be revised at this time.

Public comment

Please summarize all comments received during public comment period following the publication of the NOIRA, and provide the agency response.

Committer	Comment	Agency response
Department of Conservation and Recreation (DCR)	The DCR staff requested that future amendments to the <i>Biosolids Use Regulations</i> require that all nutrient applications on sites permitted for land application of biosolids, comply with nutrient management plans written by DCR certified planners. DCR recommended that the nutrient balance sheet example listed in Table A-2 in the <i>Biosolids Use Regulations</i> be removed. The DCR staff also requested that land application sites be removed from VDH issued permits when landowner/farmers fail to comply with nutrient management plans. DCR listed those requests in letter dated January 25, 2005 and a June 28, 2005 comment letter in response to the NOIRA. The DCR comments on the NOIRA included a request to include enforcement language in the <i>Biosolids Use Regulations</i> that would ban landowners/farmers from receiving biosolids, if non-compliance with their approved nutrient management plan was established. In addition, DCR requested that the amendment include land application requirements for phosphorus and potassium.	VDH staff believes that by including such requirements in the <i>Biosolids Use Regulations</i> , VDH would be effectively regulating farmers as to their agricultural business practices. The <i>Biosolids Use Regulations</i> provide for issuance of permits to land appliers and enforcement of those permits, but does not provide for regulating farming practices. However, the VDH Biosolids Program staff will work with DCR Nutrient Management Program staff to ensure that appropriate nutrient management practices are used by permitted land appliers.
Ms. Ann F. Jenkins, Virginia Executive Director for the Chesapeake Bay Foundation.	Ms. Jenkins requested that VDH adopt the DCR nutrient management standards.	VDH staff believes that this request is beyond the scope of this amendment.

<p>Recyc Systems, Inc.</p>	<p>Recyc Systems requested that VDH only include biosolids land application requirements in the <i>Biosolids Use Regulations</i> that are based on “sound science.”</p> <p>Recyc Systems was not in favor of eliminating Table 14 due to the differences observed in laboratory testing results. Recyc Systems, Inc. also opposed obligating the farmer to comply with the DCR approved nutrient management plan.</p> <p>Recyc Systems encouraged the use of site specific factors in establishing buffer set-back requirements which should not be overly restrictive on small farmers.</p> <p>Recyc Systems opposed obligating the land applier and farmer to compliance with some version of a nutrient management plan and requiring the land applier to optimize plant growth on permitted sites.</p>	<p>VDH staff believe that the Regulations are based on sound science and the requirements included in the proposed amendment are protective of public health and environmental quality.</p> <p>Elimination of Table 14 should not pose any problems in establishing restrictions on application rates based on the lime content of biosolids.</p> <p>VDH staff agree that buffer set-backs should be established from site specific features.</p> <p>VDH staff agree that the Regulations should not effectively be regulating farmers as to their agricultural business practices.</p>
<p>The Virginia Association of Municipal Wastewater Agencies (VAMWA)</p>	<p>VAMWA requested that VDH consult with their group in the process of adopting this amendment.</p>	<p>VAMWA is represented on the BURAC, whose members contributed to development of this amendment and are regularly informed of the status of the administrative review of the amendment.</p>
<p>Leslie Watson of Woodstock, Virginia</p>	<p>Mr. Watson expressed support for this amendment through an e-mail.</p>	<p>VDH staff acknowledged this support.</p>

Family impact

Please assess the impact of the proposed regulatory action on the institution of the family and family stability.

The proposed regulatory action will have no anticipated or associated impacts on family rights to educate and supervise children. It will not discourage economic self-sufficiency and family responsibilities and commitments or decrease disposable family income.

Detail of changes

Please detail all changes that are being proposed and the consequences of the proposed changes. Detail all new provisions and/or all changes to existing sections.

If the proposed regulation is intended to replace an emergency regulation, please list separately (1) all changes between the pre-emergency regulation and the proposed regulation, and (2) only changes made since the publication of the emergency regulation.

The Regulations Amendment includes requirements and procedures for ensuring that land application of biosolids complies with site specific permits issued through the *Biosolids Use Regulations* and provides for resolution of disputes involving local governments and land appliers concerning permit compliance issues and provide for land application site management practices, including nutrient management plan requirements and extended buffer zones for surface application without incorporation, to protect odor sensitive receptors.

The proposed amendment to the *Biosolids Use Regulations* will involve amending sections 70, 510, 600, 620 and 630, as well as revisions to Table 12 and removal of Table 14. For changes to the existing Regulation, use this chart:

Current section number	Proposed new section number, if applicable	Current requirement	Proposed change and rationale
12 VAC 5-585-760		Currently, there is no provision for resolution of local disputes concerning permit compliance.	<p>1.In the event of a dispute between a locality that has adopted a local ordinance for testing and monitoring the land application of sewage sludge and a permittee concerning the existence of a violation, the activity alleged to be in violation shall be halted pending a determination by the commissioner. The decision of the commissioner shall be final and binding unless reversed on judicial appeal pursuant to Section 2.2-4026 of the Code of Virginia. If the activity is not halted, the commissioner may seek an injunction compelling the halting of the activity, from a court having jurisdiction.</p> <p>2.Upon determination by the division that there has been a violation of Sections 32.1-164.5, 32.1-164.6, or 62.1-44.19:3, of the Code of Virginia, or of any regulation promulgated under those sections, and that such violation poses an imminent threat to public health, safety or welfare, the commissioner shall commence appropriate action to abate the violation and immediately notify the chief administrative officer of any locality potentially affected by the violation.</p>
12 VAC 5-585-510 3.a		Currently, the land applier provides operational information	The term “operational plan” will be replaced by “management practices plan” to provide clarity and uniformity.

		<p>in a plan entitled “the operation plan.”</p> <p>Table 14 now provides recommendations for additions of lime to soils for various pH levels.</p>	<p>Table 14 and the initial reference to CCE (calcium carbonate equivalency) will be eliminated as recommended by the BURAC to be consistent with revisions to Section 600.</p>
12 VAC 5-585-510 3.c		<p>Currently, there is no provision for requiring incorporation of surface applied biosolids to mitigate excessive odors.</p>	<p>Surface incorporation may be required on cropland by the department, or the local monitor with approval of the department, to mitigate excessive odors, when incorporation is practicable and compatible with a soil conservation plan meeting the standards and specifications of the U.S. Department of Agriculture Natural Resources Conservation Service.</p>
12 VAC 5-585-510 3.d		<p>Currently, there is no provision for requiring extended buffer setback distances around surface applied biosolids to protect odor sensitive receptors.</p>	<p>For applications where surface applied biosolids are not incorporated the department may include as a site-specific permit condition authorization for the department, or the local monitor with approval of the department, to require extended buffer zone setback distances when necessary to protect odor sensitive receptors. When necessary, buffer zone setback distances from odor sensitive receptors may be extended to 400 feet or more and no biosolids shall be applied within such extended buffer zones. In accordance with 12 VAC 5-585-260, the commissioner may impose standards and requirements that are more stringent when required to protect public health and the environment, or prevent nuisance conditions from developing, either prior to or during biosolids use operations.</p>
12 VAC 5-585-600		<p>Currently, restrictions concerning the application of lime amended biosolids to soils with existing high pH levels are based on recommendations listed in Table 14.</p>	<p>Unless properly controlled, high rates of <u>calcium carbonate equivalence (CCE, which is a factor that relates the liming potential of biosolids to calcium carbonate limestone)</u> application can have an adverse effect on crop productivity by increasing the soil pH beyond the range optimum for maximum crop production. <u>Agricultural use of biosolids with high CCE content is to be controlled to correspond with current agricultural liming practices- CCE equivalent loadings should not exceed rates designed to attain soil pH values in the plow layer above-6.5 for soils located in the coastal plain and above 6.8 for soils located in other areas of the state.</u></p>

			Corresponding application rates for lime stabilized biosolids may be computed by determining the actual CCE content of the biosolids and adjusting the recommended lime rate by the appropriate factor.
12 VAC 5-585-620		Currently, the section does not mention a site management practices plan and does not require submittal of a nutrient management plan approval letter from DCR.	A copy of a letter of approval of the nutrient management plan for the operation from DCR if required in 12-VAC-585-630A.3, is to be provided for permitted sites as stated in the management practices plan.
12 VAC 5-585-630		Currently, the section describes requirements to be addressed in an operational plan and does not require preparation of a nutrient management plan for all sites and DCR approval of such plans for frequent below agronomic rates. Table 12 lists estimated Nitrogen mineralization rates for various types of biosolids and estimated values of ammonia availability and losses for different application methods, using biosolids with pH levels above and below 10.	<p>A nutrient management plan prepared by a person that is certified as a nutrient management planner by the Commonwealth of Virginia is to be developed for all application sites, prior to biosolids application. Copies of the nutrient management plan are to be provided to the farmer operator of the site, the Department of Conservation and Recreation regional office and the Chief Executive Officer or designee for the local government, unless they request in writing not to receive the nutrient management plan.</p> <p>A nutrient management plan approved by the Department of Conservation and Recreation will be required for land application more frequently than once every three years at greater than 50 percent of the annual agronomic rate on application sites and application sites owned or operated in conjunction with a confined animal feeding operation. Confined animal feeding operation means: (i) domestic livestock have been, are, or will be stabled or confined and fed or maintained for a total of 45 days or more in any 12-month period; and (ii) crops vegetation, forage growth or post-harvest residues are not sustained over any portion of the operation site.</p> <p>All nutrient management plans shall account for all sources of nutrients to be applied to the site and include at a minimum the following information: (i) a site map indicating the location of any waste storage facilities and the fields where biosolids or animal waste will be applied; (ii) site evaluation and assessment of soil types and potential productivities; (iii) nutrient management sampling including soil</p>

			<p>monitoring; (iv) biosolids or animal waste application rates based on the overall nutrient requirements of the proposed crop and soil monitoring results; and (v) biosolids and other nutrient source application schedules and land area requirements.</p> <p>Table 12 will be updated based on more current information concerning Nitrogen mineralization and Ammonia volatilization.</p> <p>Table 14 will be removed from the Regulation.</p>